

MEMORANDUM

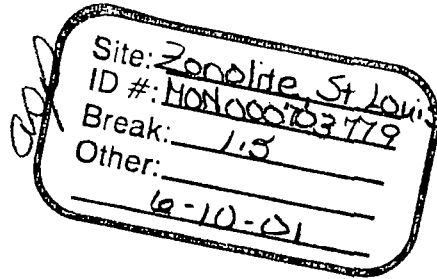
DATE: 6/10/2001

TO: FILE

FROM: Bryant Burnett, Site Assessment Manager

RE: Abbreviated Preliminary Assessment/Integrated Assessment

SITE: Zonolite CO, St. Louis EPA ID # MON000703779



Attached to this memorandum is a Decision document and a Removal Assessment for the subject site as well as five other sites. These sites were investigated during a national initiative to investigate multiple vermiculite sites for asbestos contamination. The Removal Assessment contains sufficient information to negate further investigation and identifies that no further Pre-remedial activities are necessary at the site, therefore this report is being identified to contain an Abbreviated Preliminary Assessment.



REMEDIAL SITE ASSESSMENT DECISION - EPA REGION VII

Page 1 of 1

EPA ID: MON000703779 Site Name: ZONOLITE CO., ST. LOUIS

State ID: MOD0499749

Alias Site Names: L AND L INSULATION AND SUPPLY CO.

City: ST. LOUIS

County or Parish: ST. LOUIS

State: MO

Refer to Report Dated: 01/25/2001

Report Type: INTEGRATED ASSESSMENT 001

Report Developed by: START

DECISION:

☒ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:

☒ 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)

☐ 1b. Site may qualify for action, but is deferred to:

☐ 2. Further Assessment Needed Under CERCLA:

2a. Priority: ☐ Higher ☐ Lower


2b. Other: (recommended action) NFRAP (No Further Remedial Action Planned)

DISCUSSION/RATIONALE:

The U.S. Environmental Protection Agency (EPA) has determined that no further remedial action by the Federal Superfund program is warranted at the referenced site, at this time. The basis for the no further remedial action planned (NFRAP) determination is provided in the attached document. A NFRAP designation means that no additional remedial steps under the Federal Superfund program will be taken at the site unless new information warranting further Superfund consideration or conditions not previously known to EPA regarding the site are disclosed. In accordance with EPA's decision regarding the tracking of NFRAP sites, the referenced site may be removed from the CERCLIS database and placed in a separate archival database as a historical record if no further Superfund interest is warranted. Archived sites may be returned to the CERCLIS site inventory if new information necessitating further Superfund consideration is discovered. This site was investigated with other sites as a national initiative for vermiculite activities.

Site Decision Made by: BRYANT BURNETT

Signature: _____



Date: 06/10/2001



ecology and environment, inc.

International Specialists in the Environment

Cloverleaf Building 3, 6405 Metcalf

Overland Park, Kansas 66202

Tel: (913) 432-9961, Fax: (913) 432-0670

MEMORANDUM

TO: Roy Crossland, EPA/START PO *RC*

FROM: Michael Keller, E & E/STM *ML Keller, Mike Keller*

THRU: Robert C. Overfelt, CPG, CHMM, E & E/START PM *RCO*

DATE: January 25, 2001

SUBJECT: Removal Assessment for the multiple Vermiculite Investigations; Council Bluffs, Iowa; Kansas City, Missouri; Omaha, Nebraska; St. Louis, Missouri; and Wellsville, Kansas

TDD: S07-0004-001 PAN: 1529VISIXX

EPA OSC: Joe Davis

INTRODUCTION

The Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division (SUPR) to conduct a removal assessment for six vermiculite investigation sites. The six locations include: E.M. Peat Manufacturing Company in Council Bluffs, Iowa; Zonolite Company in Kansas City, Missouri; Western Mineral Products Company in Omaha, Nebraska; Zonolite Company and J.J. Brouk & Company, Incorporated (Inc.) in St. Louis, Missouri; and Diversified Insulation, Inc. in Wellsville, Kansas. Field activities included the sampling of surface soils on the exterior of the buildings and sweep samples in the interior. START also provided site and photographic documentation of all site activities. START member (STM) Michael Keller was assigned as project manager for the activity. The EPA on-scene coordinator (OSC) is Joe Davis.

SITE BACKGROUND

The following background information was obtained through an Internet search of past articles published in the *Seattle Post-Intelligence* and correspondence with EPA Region 8.

In November 1999, EPA Region 8 responded to requests from the state of Montana, Lincoln County Health Board, and city officials of Libby, Montana, concerning questions regarding possible ongoing exposures to asbestos fibers as a result of historical mining, processing and transportation of asbestos-containing vermiculite. Over 60 years of mining, milling, packaging and shipping of vermiculite occurred at the mine and associated properties.

In January 2000, the EPA expanded its investigation of asbestos-related deaths and illness from the Libby vermiculite mine to include sites across the nation that had received the tainted ore. It was estimated that during the past 40 years millions of pounds of the ore had been shipped from the northwestern Montana mine to at least 60 processing plants throughout the United States, Canada and Puerto Rico. The EPA issued a 104e letter (Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Request for Information) to the W.R. Grace Company, owner of the mine. This request identified approximately 20 sites in EPA Region 7 that had received ore from the mine in Libby. After site reconnaissance and extensive communication with contacts at the 20 sites, EPA Region 7 personnel narrowed the list down to six locations within the region.

The first site identified by W.R. Grace was owned by E.M. Peat Manufacturing Company, which was located at 33 South 25th Street in Council Bluffs, Iowa (See Attachment A: Figure 1: Council Bluffs Site Location Map). The E.M. Peat Manufacturing site is currently leased by Iowa Riggers Company and is used for painting operations and storage space. The property is owned by Joab Straghan. Ownership records indicate it was operated as Peet's (sic) Stock and Feed store from the 1920's until the late 1980's. The building has truck access docks on the north side and rail access docks on the south side. The only indication of former vermiculite handling observed at the property during an EPA site visit was a very limited area beneath the south rail docks where some mica flakes could be seen. The likely use of vermiculite at the facility, considering the stock and feed operations, was the mixing with potting soils for resale. There are no indications of the capabilities of ore processing at this facility.

The second site identified was owned by the Zonolite Company/W.R. Grace Vermiculite Products Company, and was located at 515 Madison Street in Kansas City, Missouri (See Attachment A: Figure 2: Kansas City Site Location Map). The current owner, Thomas Jenkins, stated that he purchased the

property for storage. Currently, it is leased to a company which manufactures fencing. The property was previously used by American Felt as a location to manufacture mattresses. During EPA's reconnaissance, the original furnace area was located and visible vermiculite was found underneath some of the bedding material when the area was inspected.

The third site identified was owned by Western Mineral Products Company, located at 3520 I Street in Omaha, Nebraska (See Attachment A: Figure 3: Omaha Site Location Map). The site is currently owned by The Gutter Company. The basement portion is leased by an archery club. Dayton Jarmin, the owner of The Gutter Company, stated that he bought the property from W.R. Grace around 1990. It had sat vacant for a few years prior to his purchase. The north side of the building has asphalted truck access docks and the south side had a rail line, which has since been removed, and access docks. The newer portion of the building appears to have been set up at one time as a bulk materials handling facility. No visible residues from the operations were present either inside or on top of the building. An environmental audit conducted prior to Jarmin's purchase identified only some former fuel storage tanks as a potential problem. There is an open field approximately 1 acre in size north of the building, where some visible mica flakes and some puffed vermiculite were noted.

The fourth site identified was owned by J.J. Brouk & Company, Inc., located at 1367 S. Kingshighway Blvd. in St. Louis, Missouri (See Attachment A: Figure 4: J.J. Brouk & Company Site Location Map). The site is currently owned by XS Warehouse. Theresa Kelly, the operations manager for XS Warehouse, stated that vermiculite (and related products) have never been used or produced in their production operations. During the reconnaissance the original furnace area was located and visible vermiculite was identified along the walls and in the former processing area.

The fifth site identified was originally owned by Zonolite Company/W.R. Grace, located at 5100 Manchester Avenue in St. Louis, Missouri (See Attachment A: Figure 5: Zonolite Site Location Map). The site is currently owned by L & L Insulation and Supply Company. L & L has been at the site since 1996. The operations manager for L & L, Gerry Trexler, stated that vermiculite (and related products) have never been used or produced in L & L's production operations. During the reconnaissance, the original furnace area was located, but no visible vermiculite, mica, or related products were found.

The sixth site identified is owned by Diversified Insulation, Inc., located in Wellsville, Kansas (See Attachment A: Figure 6: Wellsville Site Location Map). Diversified Insulation, Inc. manufactures insulation materials from recycled cellulose products. A large pile of mica was observed north of the northeasternmost building. Smaller amounts of mica were found spread throughout the field to the

northeast of the building. This area is where the former railroad spur met the building. There is also a small stream, with trace amounts of mica, which runs west to east, north of the mica pile. No vermiculite or mica was found in the building.

The site activities at the aforementioned sites was conducted by the EPA to determine whether asbestos-containing material (ACM) was present at the sites. A site-specific Quality Assurance Project Plan (QAPP) was prepared and approved by EPA.

SITE ACTIVITIES

At all six site locations samples were collected from surface soil or from material swept from the floor of the various buildings. The samples were submitted to Analytical Services, Inc. in Lanham, Maryland, to be analyzed for asbestos by polarized light microscopy (PLM). One collocated sample at each site location was analyzed by transmission electron microscopy (TEM) for confirmation of asbestos fibers. The first letter(s) identifies the site location (i.e., CB for Council Bluffs). The three-digit number identifies the sample location (i.e., 001), and the last letter (P or T) identifies how the sample was analyzed (PLM or TEM).

On October 12, 2000, Davis conducted a site reconnaissance at the Council Bluffs and Omaha sites. As START was not present at these sites, information and sketches were developed from OSC Davis's notes and recollections. No visible ACM was present at the Western Mineral Products Company site in Omaha, Nebraska. Davis collected the following five samples: samples O-001P and O-001T were collected from a railroad spur northwest of the on-site building complex. Sample O-003P was collected north of the building and east of a concrete pad. Sample O-004P was collected from a 15-foot by 30-foot pile of debris located in the field north of a building. Sample O-005P was a composite sample collected from the field north of the building. All sample locations are shown in Attachment C: Omaha Sample Location Sketch.

No visible ACM, vermiculite, or mica was identified at the Council Bluffs site; consequently, only two samples (CB-001P and CB-001T) were collected. Both were collected from a dock by a south railroad spur. No sketch was developed by the OSC.

On November 28, 2000, sampling was conducted by Davis and Keller at the Kansas City vermiculite site located at 515 Madison Avenue in Kansas City, Missouri. The current operation at the site consists

of manufacturing wood fences. The interior of the wall/floor junction had deposits of soil, sawdust, and insulation from the walls. Five soil samples and one sweep sample were collected from the site. All sample locations are shown in Attachment B: Photographic Documentation and Attachment C: Figure 2: Kansas City Sample Location Sketch. Samples KC-001T and KC-001P were collected from the interior wall/floor junction along the north wall near the old loading dock door (See Attachment B: Photographic Documentation). There was a small amount of vermiculite present. Sample KC-002P was collected from the floor beneath where a blast furnace was thought to have been located (See Attachment B: Photographic Documentation). Sample KC-003P was collected from the interior wall/floor junction along the southern wall approximately halfway down the length of the building. There was a small amount of mica/vermiculite in the sample. Samples KC-004P and KC-005P were collected outside the building in the soil at a 0- to 2-inch depth. Sample KC-004P was located approximately 10 feet east of the eastern side of the building. A few pieces of vermiculite were observed. Sample KC-005P was collected approximately 15 feet south of the southern side of the building near the dock area. Large amounts of vermiculite were present.

On November 30, 2000, field work at the two sites in St. Louis took place. The first site visited was the XS Warehouse located at 1367 S. Kings Highway Boulevard, St. Louis, Missouri. The site was formerly know as J.J. Brouk & Company. All sample locations can be found in Attachment C: Figure 3: J.J. Brouk & Company Sample Location Sketch. Samples B-001P and B-001T were collected from the floor between three large hoppers in Building 1. Mica flakes were visible in the material. Sample B-002P was a sweep sample collected from the floor of Building 1. Mica flakes also were visible in the sweep sample. Sample B-003P was collected from the soil underlying an old railroad spur west of Building 2. The last sample, B-004P, was collected from a pile of debris with approximately 50 percent mica content, north of Building 1 and outside of dock door 3.

The second site visit in St. Louis was the former Zonolite Company, now owned and operated by L & L Insulation and Supply Company, located at 5100 Manchester Avenue, St. Louis, Missouri. After meeting with the operations manager Gerry Trexler, a site walkthrough was conducted. No visible vermiculite or mica was found within the building and only small traces of mica were found in the soil and debris along the railroad spur north of the building. Two samples (Z-001P and Z-001T) were collected from the railroad spur.

On December 1, 2000, sampling at the Wellsville location was conducted by Davis and Keller. No mica or vermiculite was found within the buildings, but large amounts of mica were visible north of the

building near where the railroad spur had been located. All sample locations are identified in both the Attachment B: Photographic Documentation and Attachment C: Figure 4: Wellsville Sample Location Sketch. Samples W-001P and W-001T were collected approximately 25 feet north of the building in the most concentrated area of mica. Sample W-002P was collected from the open field northeast of the building. Visible mica was spread throughout the field to the northeast of the building in an area measuring approximately 40,000 square feet. The last sample, W-003P, was collected from a stream north of the building.

ANALYTICAL RESULTS

Eighteen samples were collected from the six sites and analyzed by PLM. Nine of them were non-detect for asbestos and the other nine had only trace amounts at less than 1 percent. One TEM sample was collected at each site. The Council Bluffs and St. Louis Brouk site TEM samples were non-detect for asbestos. The other four site locations had trace amounts (less than 1 percent) of asbestos in the TEM sample. Table 1 summarizes all of the sample data collected from the six sites. The analytical data package, field sheets, and chain of custody record are in Attachment D.

SUMMARY

START conducted a Removal Assessment of six locations in Iowa, Kansas, Nebraska, and Missouri suspected of containing asbestos contaminated vermiculite which originated from a Montana mine. Eighteen samples were collected and submitted to Analytical Services, Inc. for asbestos analysis. Sample results indicate that only trace amounts of ACM are present at five of the sites and non-detect at the Council Bluffs site. No visible ACM was observed at any of the sites.

Removal Considerations

Based on the limited concentrations of ACM found at the sites, no further removal action is warranted. A completed Removal Site Evaluation (RSE) Form is available as Attachment E.

Preremedial Considerations

Because of the trace amounts of ACM found at the sites and the immobility of asbestos in soil, the potential threats to the exposure pathways at this sites are believed to be minimal.

Table 1								
ANALYTICAL SUMMARY—VERMICULITE INVESTIGATIONS								
PAN: 1529VISIXX TDD: S07-0004-001								
Sample #	Location	Analyte						
		% Total Asbestos	% Asbestos by PLM	% Asbestos by TEM	% Chrysotile	% Amosite	% Trem-Actin	% Other Asbestos
Council Bluffs Site								
CB-001T	Dock by south railroad spur	NAD	N/A	--	--	--	--	--
CB-001P	Dock by south railroad spur	NAD	--	N/A	--	--	--	--
Kansas City Site								
KC-001P	Wall floor junction, north side of building	TR	TR	N/A	TR	--	N/A	TR
KC-001T	Wall floor junction, north side of building	TR	N/A	TR	TR	--	TR	N/A
KC-002P	Sweep sample within building	NAD	--	--	--	--	--	--
KC-003P	Wall floor junction southeast side of the building	NAD	--	--	--	--	--	--
KC-004P	Outside east end of building	NAD	--	--	--	--	--	--
KC-005P	Outside south end of building	TR	TR	N/A	--	--	N/A	TR
Omaha Site								
O-001P	Railroad spur northwest of the building	TR	TR	N/A	--	--	N/A	TR
O-001T	Railroad spur northwest of the building	TR	N/A	TR	--	--	TR	N/A
O-003P	Soil north of building	TR	TR	N/A	--	--	N/A	TR
O-004P	Pile north of building	NAD	--	--	--	--	--	--
O-005P	Field northwest of building	TR	TR	N/A	--	--	N/A	TR
St. Louis Site (Brouk)								
B-001T	Under hopper in building 1	NAD	N/A	--	--	--	--	--
B-001P	Under hopper in building 1	NAD	--	N/A	--	--	--	--
B-002P	Sweep sample from floor of building 1	NAD	--	N/A	--	--	--	--
B-003P	Old railroad spur west of building 2	NAD	--	N/A	--	--	--	--
B-004P	Outside building 1 north of dock door 3	TR	TR	N/A	--	--	--	TR
St. Louis Site (Zonolite)								
Z-001T	Railroad spur	TR	N/A	TR	TR	--	TR	--
Z-001P	Railroad spur	TR	TR	N/A	--	--	N/A	TR
Wellsville Site								
W-001T	Mica pile north of building	TR	N/A	TR	TR	--	TR	--
W-001P	Mica pile north of building	TR	TR	N/A	--	--	N/A	TR
W-002P	Northeast of building	TR	TR	N/A	--	--	N/A	TR
W-003P	Stream north of building	NAD	--	N/A	--	--	N/A	--

KEY: NAD = No Asbestos Detected N/A = Not Applicable TR = Trace equals less than 1%

ATTACHMENTS:

- A. Figure 1: Council Bluffs Site Location Map
Figure 2: Kansas City Site Location Map
Figure 3: Omaha Site Location Map
Figure 4: J.J. Brouk & Company Site Location Map
Figure 5: Zonolite Site Location Map
Figure 6: Wellsville Site Location Map
- B. Photographic Documentation
- C. Figure 1: Omaha Sample Location Sketch
Figure 2: Kansas City Sample Location Sketch
Figure 3: J.J. Brouk & Company Sample Location Sketch
Figure 4: Wellsville Sample Location Sketch
- D. Analytical Data, Field Sheets, and Chain of Custody
- E. Removal Site Evaluation (RSE) Form

ATTACHMENT A

Figure 1: Council Bluffs Site Location Map

Figure 2: Kansas City Site Location Map

Figure 3: Omaha Site Location Map

Figure 4: J.J. Brouk & Company Site Location Map

Figure 5: Zonolite Site Location Map

Figure 6: Wellsville Site Location Map

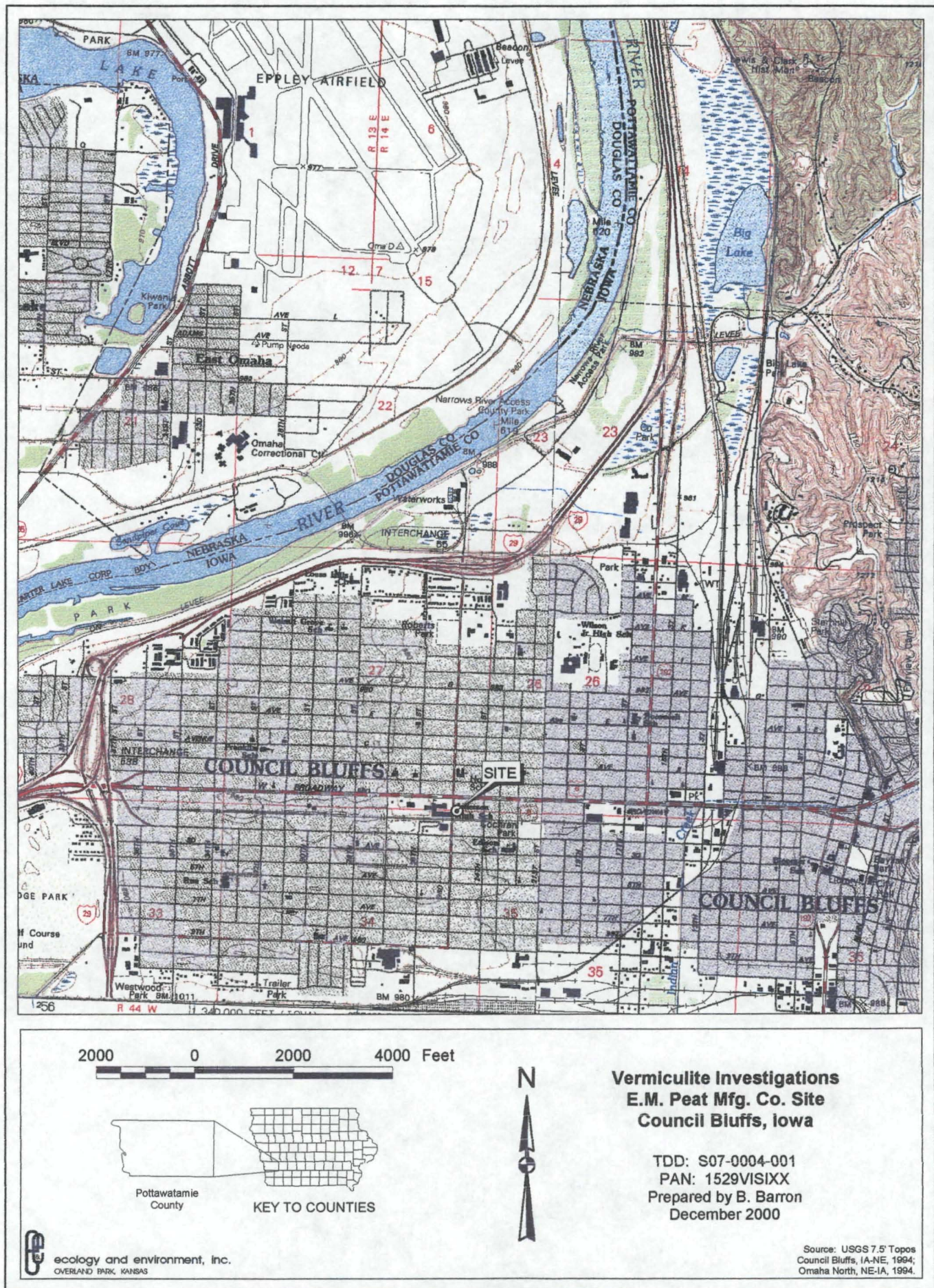
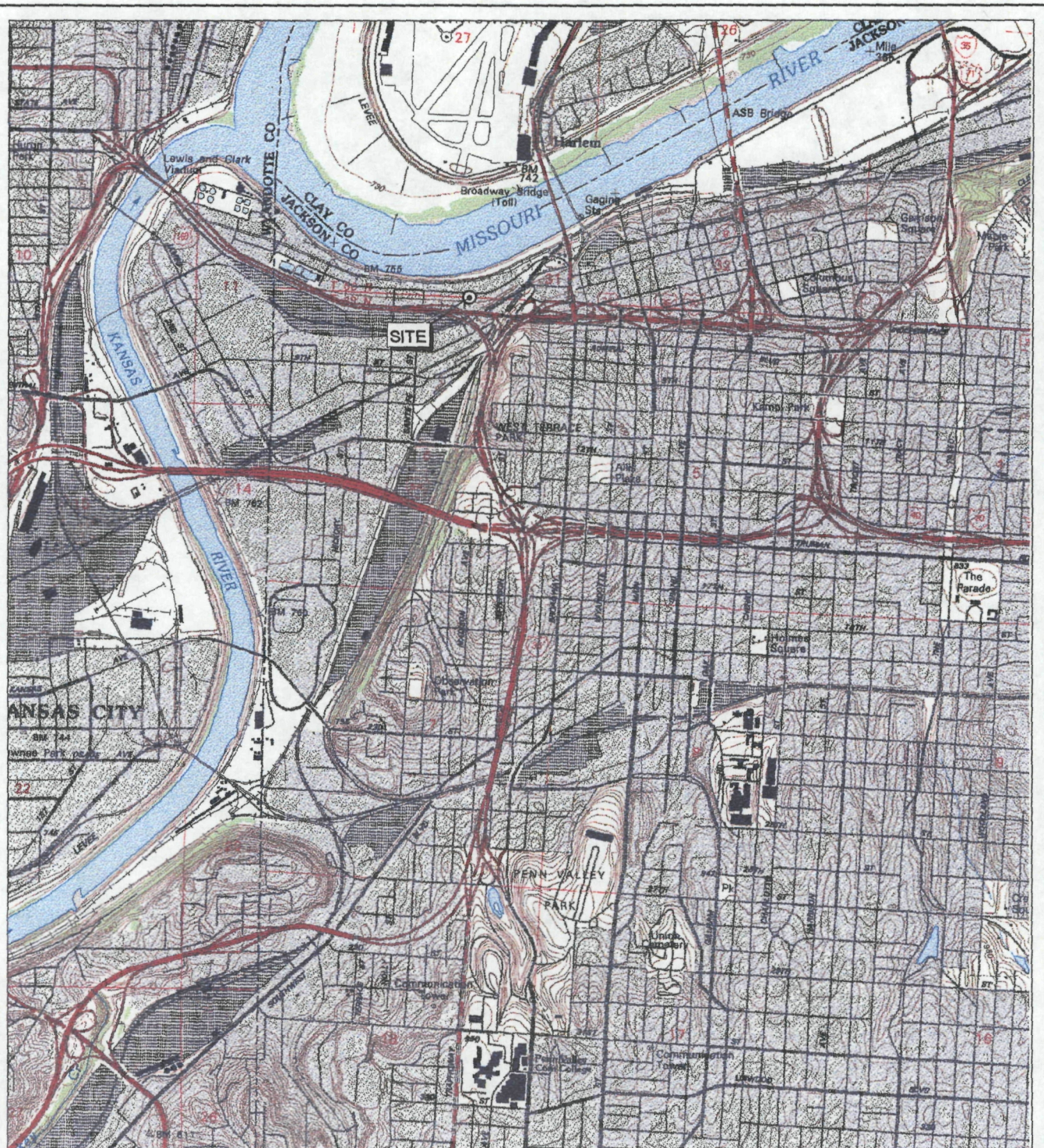
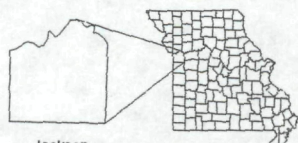


Figure 1: Council Bluffs Site Location Map



2000 0 2000 4000 Feet



Jackson
County

KEY TO COUNTIES



**Vermiculite Investigations
Zonolite Co./WR Grace
Vermiculite Products Co.
Kansas City, Missouri**

TDD: S07-0004-001
PAN: 1529VISIXX
Prepared by B. Barron
December 2000



ecology and environment, inc.
OVERLAND PARK, KANSAS

Source: USGS 7.5 Topos
Kansas City, MO-KS, 1991.

Figure 2: Kansas City Site Location Map



2000 0 2000 4000 Feet



**Vermiculite Investigations
Western Mineral Products Co.
Omaha, Nebraska**

TDD: S07-0004-001
PAN: 1529VISIXX
Prepared by B. Barron
December 2000

 **ecology and environment, inc.**
OVERLAND PARK, KANSAS

Source: USGS 7.5' Topos
Omaha South, NE-1A, 1994.

Figure 3: Omaha Site Location Map



2000 0 2000 4000 Feet



ecology and environment, inc.
OVERLAND PARK, KANSAS



Vermiculite Investigations
J.J. Brouk & Co., Inc.
St. Louis, Missouri

TDD: S07-0004-001
PAN: 1529VISIXX
Prepared by B. Barron
December 2000

Source: USGS 7.5' Topos
Clayton, MO, 1954, PR 1993;
Webster Groves, MO-IL, 1954, PR 1993.

Figure 4: J.J. Brouk & Company Site Location Map



2000 0 2000 4000 Feet



KEY TO COUNTIES



ecology and environment, inc.
OVERLAND PARK, KANSAS



Vermiculite Investigations
Zonolite Co./WR Grace
St. Louis, Missouri

TDD: S07-0004-001
PAN: 1529VISIXX
Prepared by B. Barron
December 2000

Source: USGS 7.5' Topos
Clayton, MO, 1954, PR 1993;
Webster Groves, MO-IL, 1954, PR 1993.

Figure 5: Zonolite Site Location Map

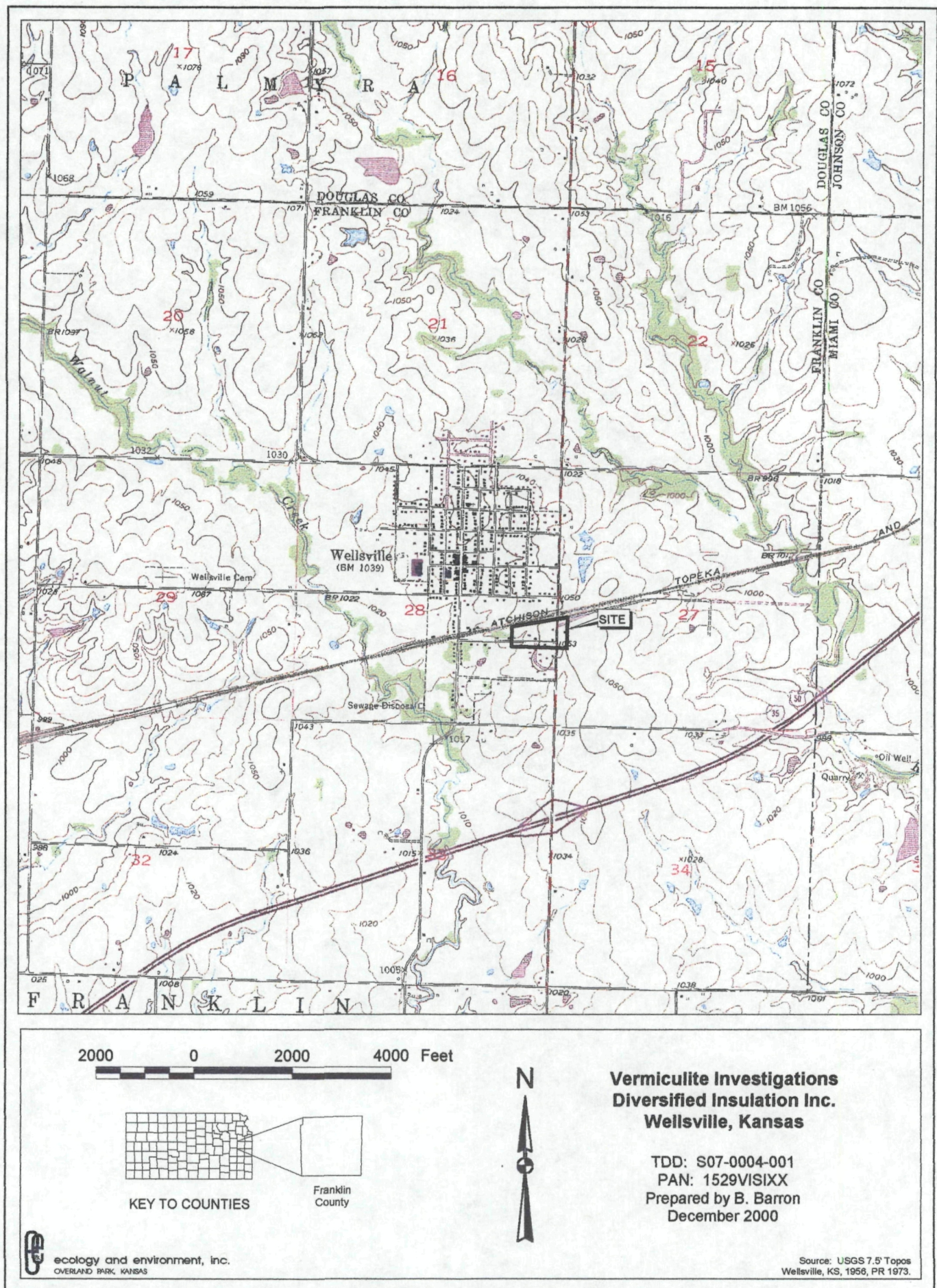


Figure 6: Wellsville Site Location Map

ATTACHMENT B

Photographic Documentation

PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
(Superfund Technical Assessment and Response Team)

SITE NAME: Vermiculite Investigations
SITE LOCATION: Kansas City, Missouri
JOB#: 000609.KJ07.05
CAMERA MAKE: Olympus OM77af

TDD: S07-0004-001
EPA ID: 724266

PAN: 1529VISIXX
SERIAL NO.: 2070645 (lens) 1037681

Photographer: Keller
Date: 11/28/00
Time: 1310
Roll: 1
Frame no.: 2
Direction: Up
Comments: Former blast furnace exhaust
hole above floor where sample
KC-002P was collected.



Photographer: Keller
Date: 11/28/00
Time: 1401
Roll: 1
Frame no.: 5
Direction: South
Comments: Floor where sample KC-002P
was collected.



PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
(Superfund Technical Assessment and Response Team)

SITE NAME: Vermiculite Investigations
SITE LOCATION: Kansas City, Missouri
JOB#: 000609.KJ07.05
CAMERA MAKE: Olympus OM77af

TDD: S07-0004-001
EPA ID: 724266

PAN: 1529VISIXX
SERIAL NO.: 2070645 (lens) 1037681

Photographer: Keller
Date: 11/28/00
Time: 1400
Roll: 1
Frame no.: 4
Direction: North
Comments: Wall floor conjunction where
samples KC-001P & KC-001T
were collected



Photographer: Keller
Date: 11/28/00
Time: 1402
Roll: 1
Frame no.: 6
Direction: Southwest
Comments: Wall floor conjunction where
sample KC-003P was collected.



PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
(Superfund Technical Assessment and Response Team)

SITE NAME: Vermiculite Investigations
SITE LOCATION: Kansas City, Missouri
JOB#: 000609.KJ07.05
CAMERA MAKE: Olympus OM77af

TDD: S07-0004-001
EPA ID: 724266

PAN: 1529VISIXX
SERIAL NO.: 2070645 (lens) 1037681

Photographer: Keller
Date: 11/28/00
Time: 1405
Roll: 1
Frame no.: 7
Direction: North
Comments: Debris pile east of building
where sample KC-004P was
collected.



Photographer: Keller
Date: 11/28/00
Time: 1407
Roll: 1
Frame no.: 8
Direction: East
Comments: Sample KC-005P collected north
of the building.



PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
(Superfund Technical Assessment and Response Team)

SITE NAME: Vermiculite Investigations

SITE LOCATION: Wellsville, KS

JOB#: 000609.KJ07.05

CAMERA MAKE: Olympus OM77af

TDD: S07-0004-001

EPA ID: 724266

PAN: 1529VISIXX

SERIAL NO.: 2070645 (lens) 1037681

Photographer: Keller

Date: 12/01/00

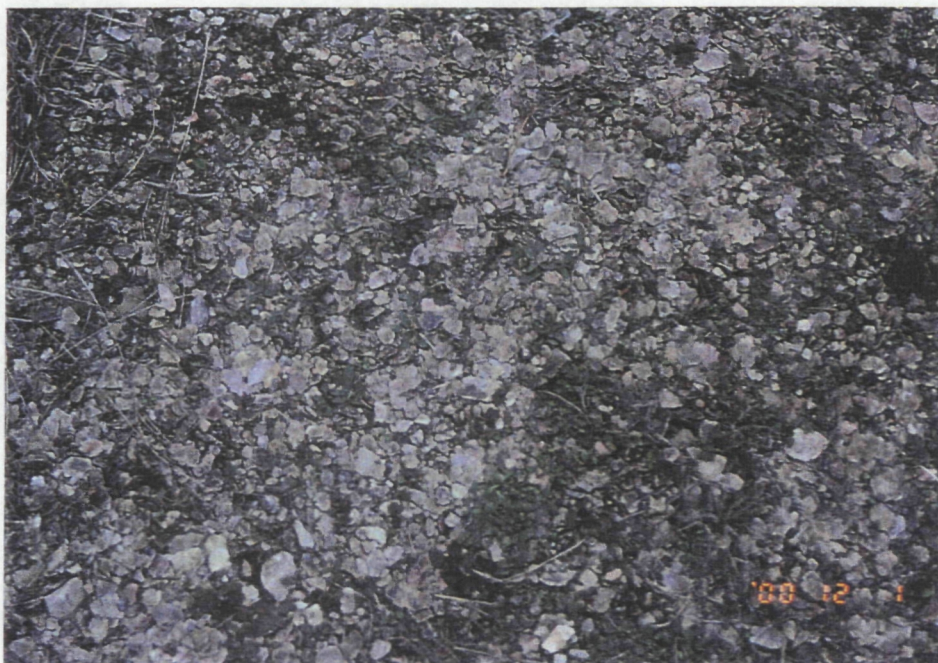
Time: 1305

Roll: 2

Frame no.: 1

Direction: Down

Comments: Mica pile north of building
sample W-001P & W-001T



Photographer: Keller

Date: 12/01/00

Time: 1307

Roll: 2

Frame no.: 5

Direction: W

Comments: Mica pile with building to the
south and creek to the north.



PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
(Superfund Technical Assessment and Response Team)

SITE NAME: Vermiculite Investigations

SITE LOCATION: Wellsville, Kansas

JOB#: 000609.KJ07.05 **TDD:** S07-0004-001

CAMERA MAKE: Olympus OM77af

EPA ID: 724266

PAN: 1529VISIXX

SERIAL NO.: 2070645 (lens) 1037681

Photographer: Keller

Date: 12/01/00

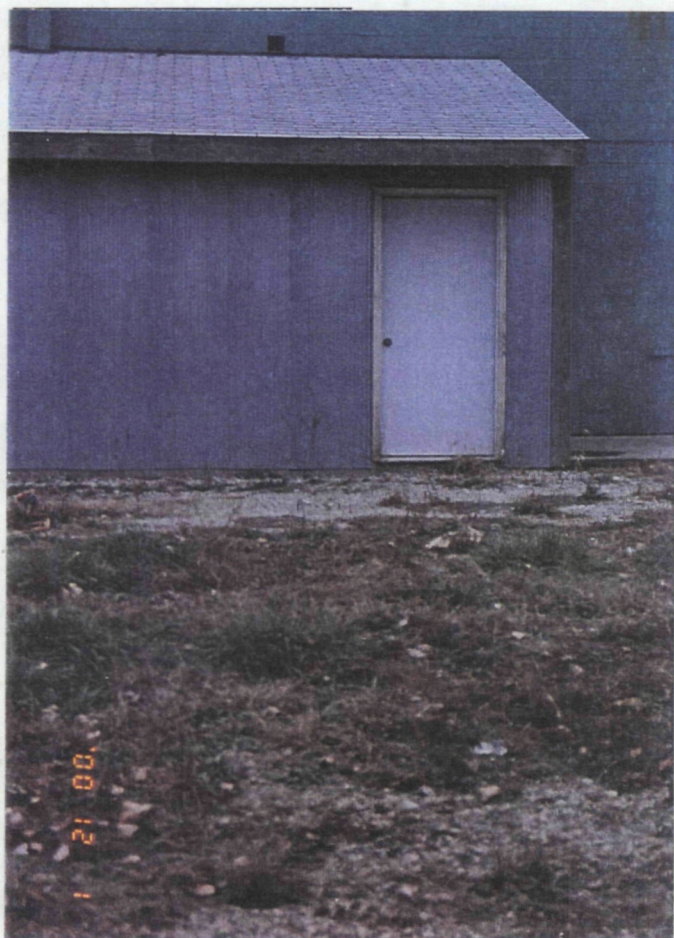
Time: 1307

Roll: 2

Frame No.: 3

Direction: South

Comments: Building with large mica pile in foreground



Photographer: Keller

Date: 12/01/00

Time: 1309

Roll: 2

Frame No.: 4

Direction: North

Comments: Mica pile with stream and railroad in background



PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
(Superfund Technical Assessment and Response Team)

SITE NAME: Vermiculite Investigations

SITE LOCATION: Wellsville, KS

JOB#: 000609.KJ07.05

CAMERA MAKE: Olympus OM77af

TDD: S07-0004-001

EPA ID: 724266

PAN: 1529VISIXX

SERIAL NO.: 2070645 (lens) 1037681

Photographer: Keller

Date: 12/01/00

Time: 1341

Roll: 2

Frame no.: 6

Direction: West

Comments: Field Northeast of building
sample W-002P



Photographer: Keller

Date: 12/01/00

Time: 1343

Roll: 2

Frame no.: 7

Direction: Down

Comments: Stream north of building
sample W-003P



ATTACHMENT C

Figure 1: Omaha Sample Location Sketch

Figure 2: Kansas City Sample Location Sketch

Figure 3: J.J. Brouk & Company Sample Location Sketch

Figure 4: Wellsville Sample Location Sketch

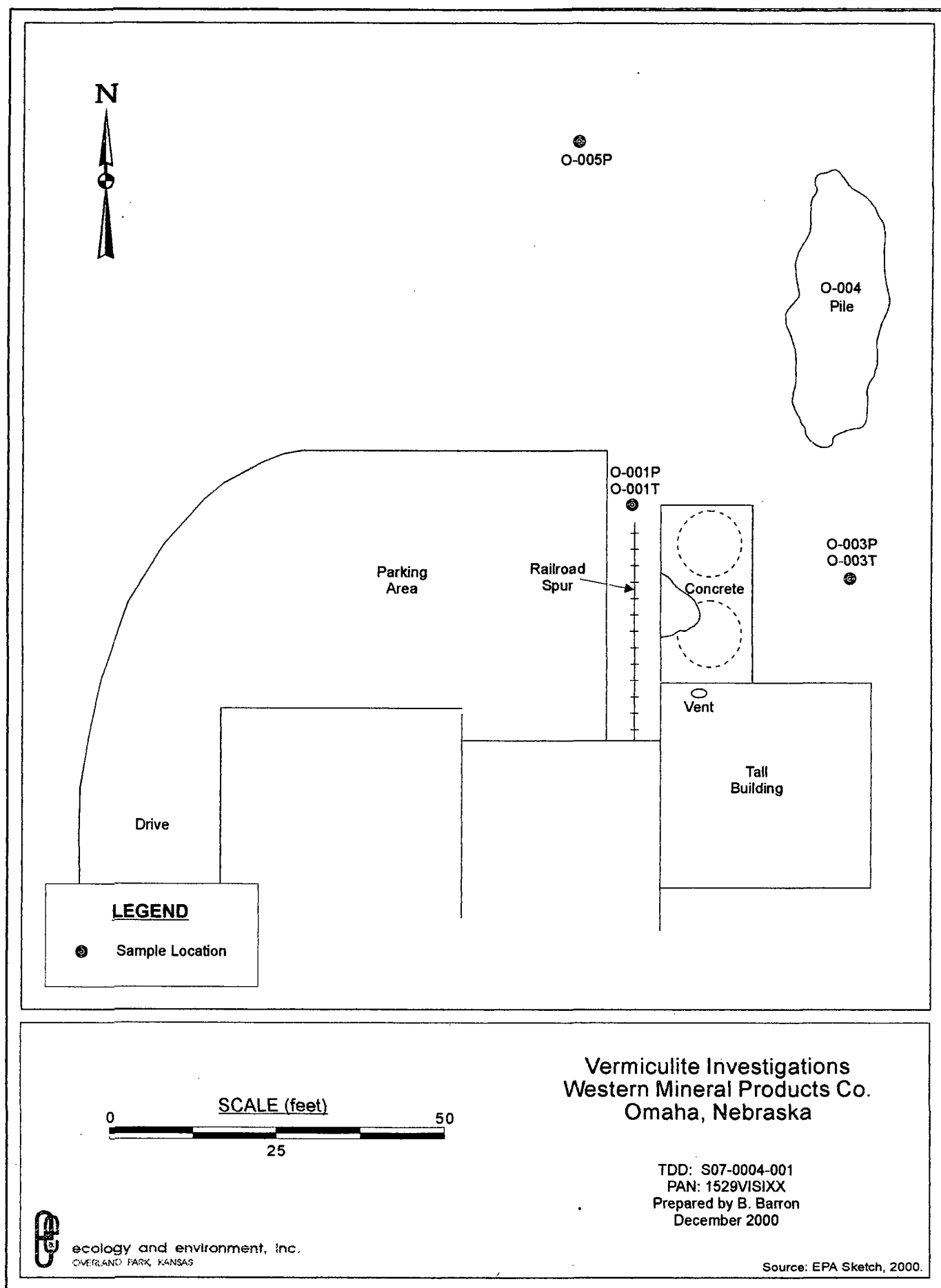
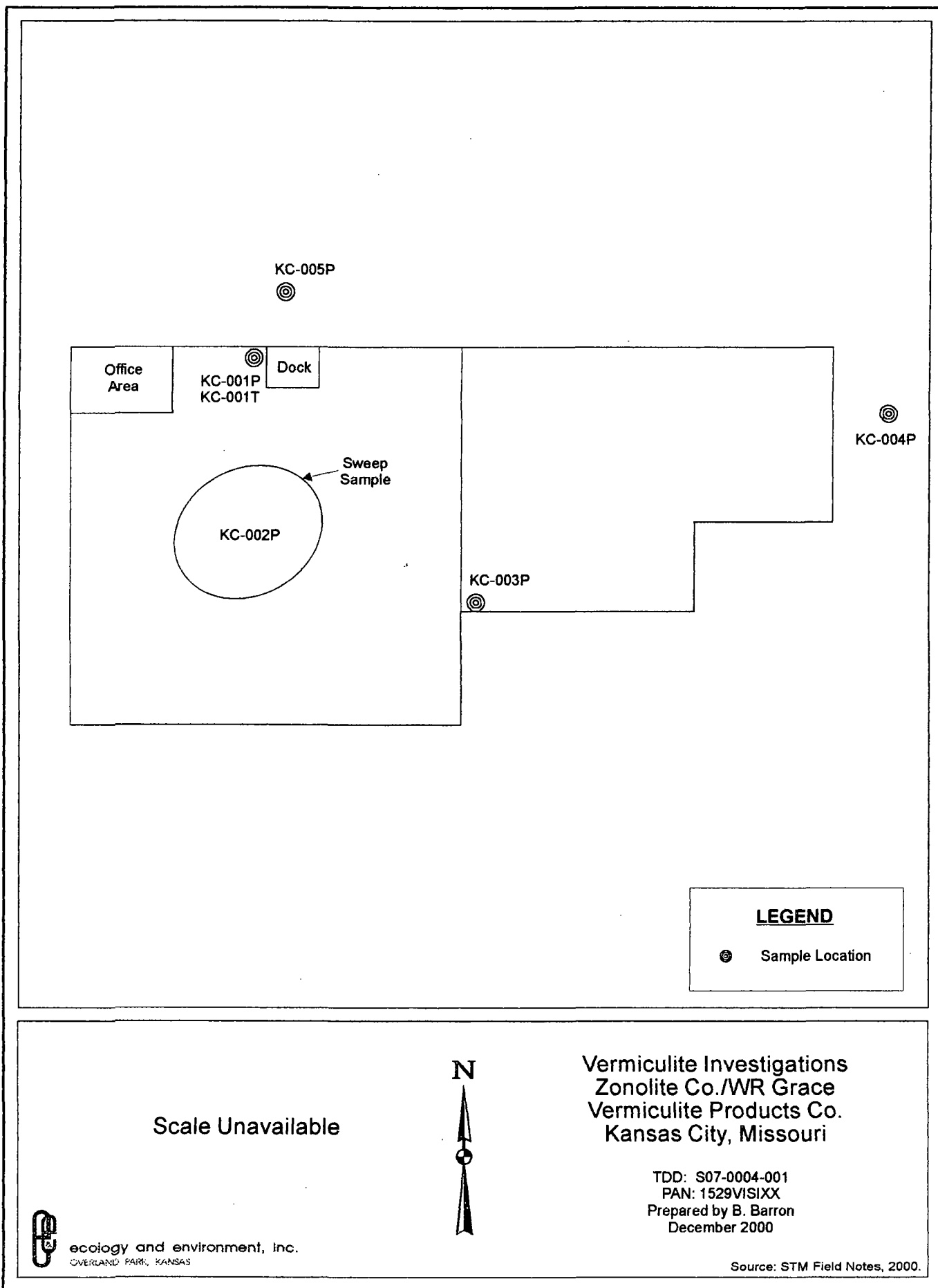
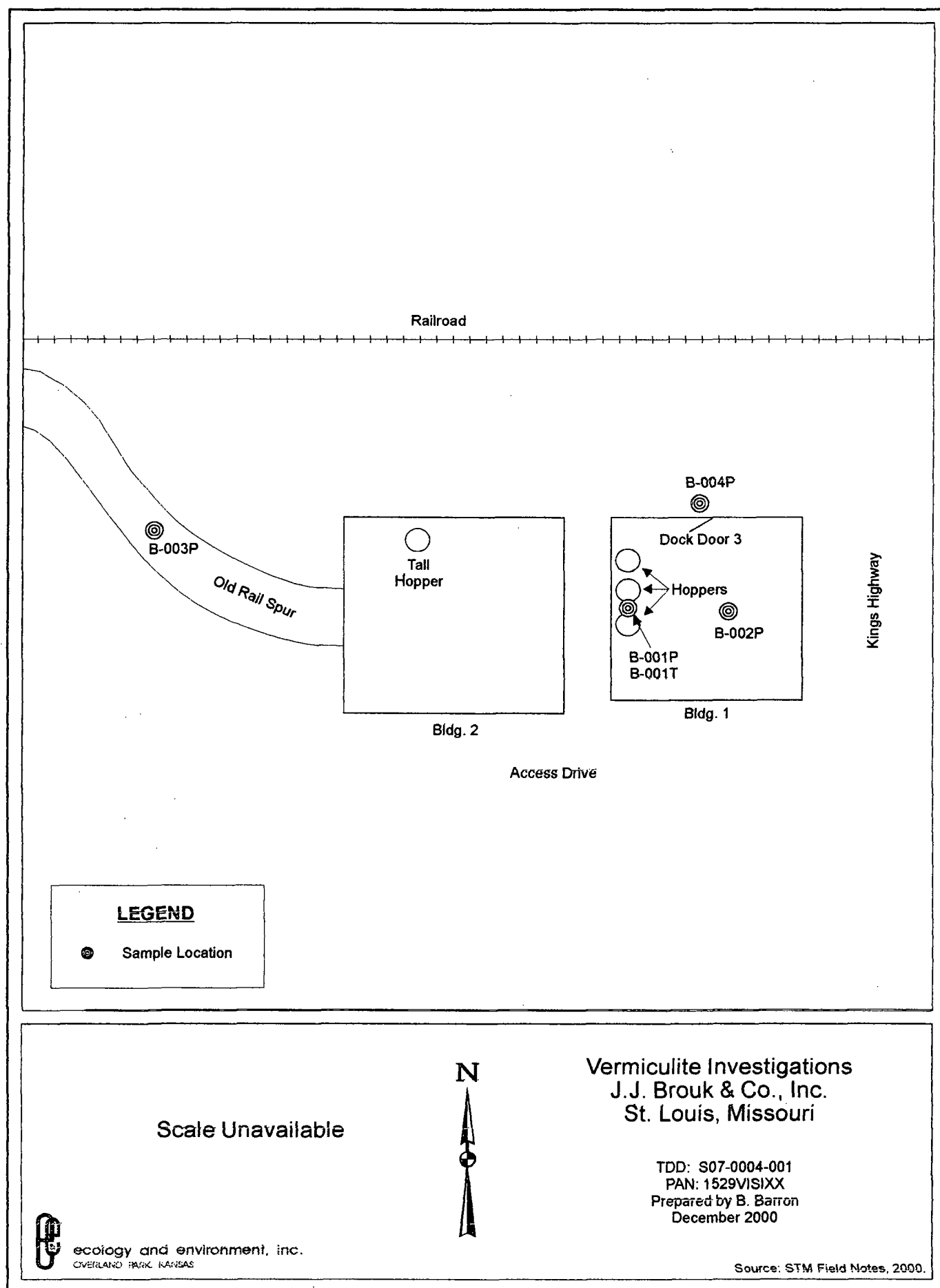


Figure 1: Omaha Sample Location Sketch



KCFIG2.CDR

Figure 2: Kansas City Sample Location Sketch



BROUKFG3.CDR

Figure 3: J.J. Brouk & Company Sample Location Sketch

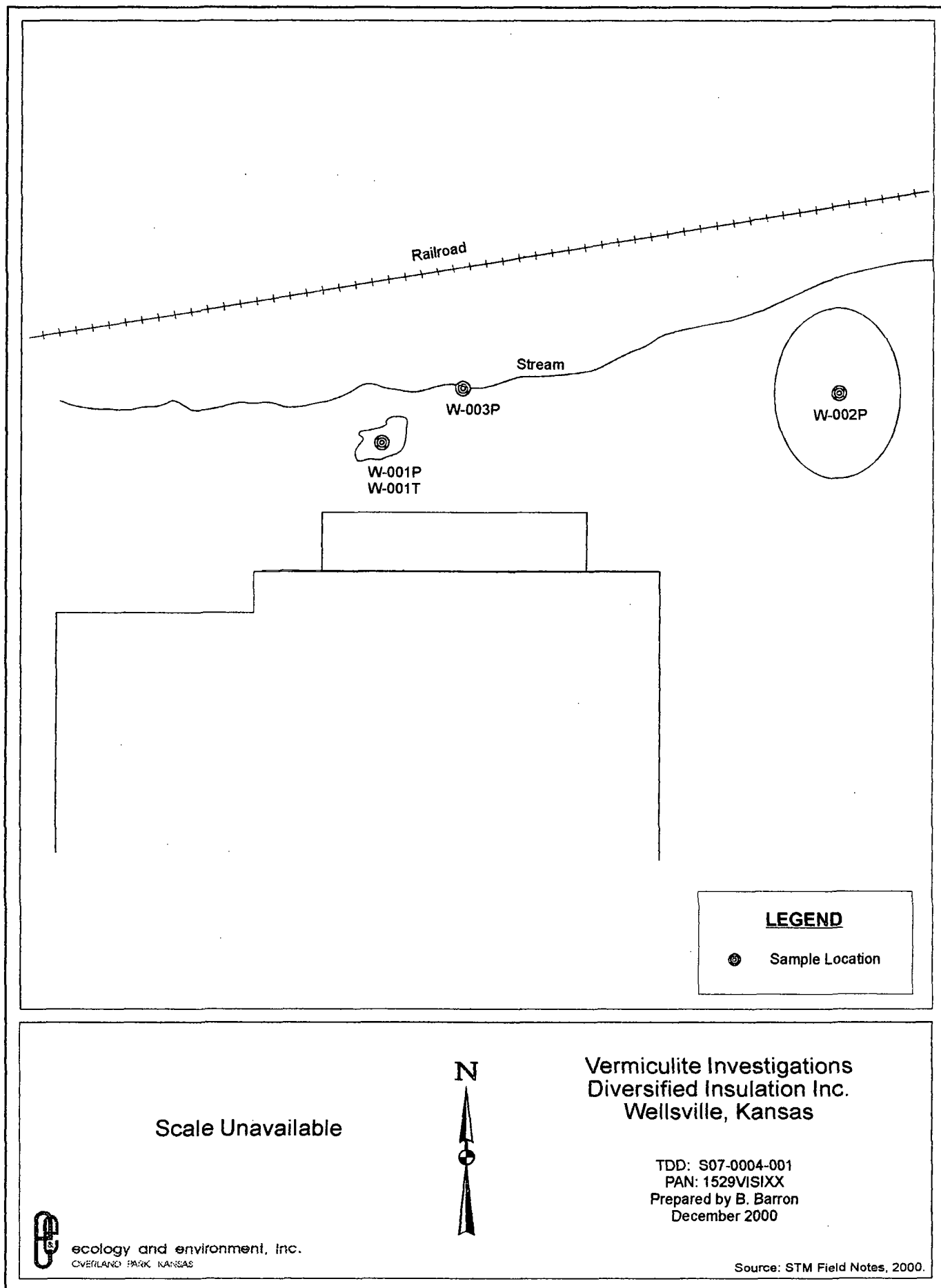


Figure 4: Wellsville Sample Location Sketch

ATTACHMENT D

Chain of Custody Documentation, Field Sheets, Analytical Data

**REGION 7/START
DATA REVIEW MEMORANDUM**

Project Number S07-0004-002 contained 24 soil samples for asbestos analysis. This project included no trip blank, no field duplicate, and no performance evaluation audit sample. Site information is given in Section I. Data review was performed at Level 4, due to the qualitative nature of the analyses. The following review applies only to the samples listed in Section II.

I. SITE/PROJECT INFORMATION

Site Name, City, & State: Vermiculite Investigation	
Dates of Sampling Event: 10/12/2000 - 12/1/2000	Activity Type: Removal Assessment
Project TDD/PAN: S07-0004-001/1529VISIXX	Analytical TDD/PAN: S07-0004-002/1530VATAXX
EPA Site Manager: Joe Davis	START Project Manager: Mike Keller
START Data Reviewer: Charles L. Smith	Laboratory: AMA Analytical Services, Inc.; Lanham, Maryland

II. SAMPLE SUMMARY

Field ID	Lab ID	Matrix	Analytical Parameters	Sample Date
KC-001 P	0111602	Bulk	Asbestos by Polarized Light Microscopy (PLM)	11/28/00
KC-001 T	0111611	Bulk	Asbestos by Transmission Electron Microscopy (TEM)	11/28/00
KC-002 P	0111603	Bulk	PLM	11/28/00
KC-003 P	0111604	Bulk	PLM	11/28/00
KC-004 P	0111605	Bulk	PLM	11/28/00
KC-005 P	0111606	Bulk	PLM	11/28/00
O-001 P	0111607	Bulk	PLM	10/12/00
O-001 T	0111612	Bulk	TEM	10/12/00
O-003 P	0111608	Bulk	PLM	10/12/00
O-004 P	0111609	Bulk	PLM	10/12/00
O-005 P	0111610	Bulk	PLM	10/12/00
CB-001 T	0112630	Bulk	TEM	10/12/00
CB-001 P	0112621	Bulk	PLM	10/12/00
B-001 T	0112631	Bulk	TEM	11/30/00
B-001 P	0112622	Bulk	PLM	11/30/00

**REGION 7 START
DATA REVIEW MEMORANDUM**

B-002 P	0112623	Bulk	PLM	11/30/00
B-003 P	0112624	Bulk	PLM	11/30/00
B-004 P	0112625	Bulk	PLM	11/30/00
Z-001 T	0112632	Bulk	TEM	11/30/00
Z-001 P	0112626	Bulk	PLM	11/30/00
W-001 T	0112633	Bulk	TEM	12/01/00
W-001 P	0112627	Bulk	PLM	12/01/00
W-002 P	0112628	Bulk	PLM	12/01/00
W-003 P	0112629	Bulk	PLM	12/01/00

III. SAMPLE INTEGRITY AND INORGANIC DATA REVIEW

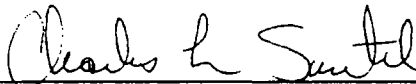
1.0 Chain of Custody/Shipping and Summary

The proper chain of custody was maintained throughout sample collection and transport. All COCs were signed and dated by the appropriate personnel. All requested analyses were performed and reported. All necessary documentation was provided. Due to the physical nature of these analyses, no QC data were available for review. A Level 4 data validation was performed. These data are deemed acceptable for use by START.

VI. Data Validation Qualifiers

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quality control criteria were not met.
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for, but not detected. The associated numerical value is the sample detection limit or adjusted sample detection limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Data Reviewed by:



Signature/Date



CHAIN OF CUSTODY

(Please Refer To This
Number For Inquiries)

77780

MAILING ADDRESS:

1. Submittal Date: 11/29/00 Job Name/Location: Vermiculite Investigations/Kansas City & Omaha
2. Client Name: Ecology & Environment, Inc. Job #: 1529VLSIXX P.O. #: KC01771
3. Street/RFD/P.O. Box: 6405 Metcalf Ave Bldg. 3 Suite 404 Bill To: Ecology & Environment, Inc.
4. City, State, Zip: Overland Park, KS, 66202 Phone #: (913) 432-9961 Fax: (913) 432-0670
5. Contact Person: Chuck Smith Submitted By: Michael Keller (Print) Michael Keller (Signature)
6. DATE & TIME RESULTS REQUIRED: 11/29/00 Time: AM ☒ IMMED ☐ 24HR ☐ 48HR ☐ 72HR ☐ 5-DAY OTHER (Specify) _____

SAMPLE DATA:

1. Analysis Type: ☒ Asbestos ☐ Lead ☐ NOB - Whole (PLM/TEM) ☐ NOB Res Ash (TEM) ☐ Other (Specify) _____
2. Total Number Of Samples: TEM 2 PCM _____ PLM 9 LEAD _____ OTHER (Specify) _____
3. ELECTRON MICROSCOPY SAMPLES:
A. Filter Type: ☒ PC ☐ MCB ☐ B. Porosity: _____ Micron: _____ C. Diameter: ☐ 37mm ☐ 25mm
4. Release Criteria/Analytical Sensitivity: 0.010 f/cc ☐ 0.005 f/cc ☐ AHERA ☒ %ASBESTOS ☐ S/PT² ☐ OTHER ☐
5. Field Sheet Attached? YES ☐ NO ☒ If No Then Please Complete The Following:

SAMPLE ANALYSIS INFORMATION

ANALYSIS

MATRIX

CLIENT ID NUMBER	AMA ID NUMBER	SAMPLE LOCATION	DATE	VOLUME (LITERS)	TEM	PCM	PLM	LEAD	OTHER	AIR	BLANK	BULK	WIPE	OTHER
KC-001P			11/28/00				X					X		
KC-001T			11/28/00		X							X		
KC-002P			11/28/00				X					X		
KC-003P			11/28/00				X					X		
KC-004P			11/28/00				X					X		
KC-005P			11/28/00				X					X		
O-001P			10/12/00				X					X		
O-001T			10/12/00		X							X		
O-003P			10/12/00				X					X		
O-004P			10/12/00				X					X		
O-005P			10/12/00				X					X		

REPORTING DATA:

1. Verbal Results To Whom? Name: Chuck Smith Phone: 913-432-9961 Beeper: _____
2. Date Written Results Required: _____ / _____ / _____

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: _____ / _____ @ _____ Via _____ By (Print) _____ Sign _____
2. Date/Time Analyzed: _____ / _____ @ _____ By (Print) _____ Sign _____
3. Results Reported To: _____ Via _____ Date _____ / _____ / _____ Time _____ Initials _____
4. Comments: _____

AMA Analytical Services, Inc.



Electron & Optical Microscopy Services

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: Ecology & Environment, Inc.
Address: 6405 Metcalf Avenue, Cloverleaf Building 3 - Suite 404
Overland Park, Kansas 66202

Job Name: Vermiculite Investigations
Job Location: Kansas City & Omaha
Job Number: 1529VISIXX
P.O. Number: 11QKC01771

Chain Of Custody: 77780
Date Analyzed: 12/07/2000
Person Submitting: Michael Keller

Attention: Chuck Smith

Page 1 of 2

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Color	Analyst ID	Comments
0111602	KC-001P	TR	TR	--	--	TR	--	--	40	--	--	60	Brown	AY	Tremolite-Actinolite
0111603	KC-002P	NAD	--	--	--	--	--	--	40	--	--	60	Brown	AY	
0111604	KC-003P	NAD	--	--	--	--	--	--	60	TR	--	40	Gray	AY	
0111605	KC-004P	NAD	--	--	--	--	--	--	60	--	--	40	Brown	AY	
0111606	KC-005P	TR	--	--	--	TR	--	--	60	TR	--	40	Brown	AY	Tremolite-Actinolite
0111607	O-001P	TR	--	--	--	TR	TR	--	15	--	--	85	Brown	AY	Tremolite-Actinolite
0111608	O-003P	TR	--	--	--	TR	TR	--	10	--	--	90	Brown	AY	Tremolite-Actinolite
0111609	O-004P	NAD	--	--	--	--	TR	--	5	--	--	95	Brown	AY	
0111610	O-005P	TR	--	--	--	TR	--	--	10	--	--	90	Brown	AY	Tremolite-Actinolite

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of air samples.

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An AIHA (#8863), NVLAP (#1143), & New York ELAP (#10920) Accredited Laboratory
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643



CERTIFICATE OF ANALYSIS

Client: Ecology & Environment, Inc. Job Name: Vermiculite Investigations Chain of Custody: 77780
Address: 6405 Metcalf Avenue, Cloverleaf Building 3 Job Location: Kansas City & Omaha Date Analyzed: 12/07/2000
Suite 404
Overland Park, Kansas 66202 Job Number: 1529VISIXX Person Submitting: Michael Keller
Attention: Chuck Smith P.O. Number: HQKC01771


Page 1 of 1

Summary of Asbestos Analysis of Non-Friable Organically Bound (NOB) Bulk Samples

AMA Sample Number	Client Sample #	Sample Type *	% Total Asbestos **	% Asbestos by PLM ***	% Asbestos by TEM ***	% by Type Chrysotile	% by Type Amosite	% by Type Trem-Actin	% Organics	% Acid Soluble	% Other	Comments
0111611	KC-001T	Whole	TR	N/A	TR	TR		TR	12.5%	14.4%	73.0%	The Asbestos Types present are Tremolite-Actinolite, Chrysotile
0111612	0-001T	Whole	TR	N/A	TR			TR	5.1%	14.9%	79.9%	The Asbestos Type Present is Tremolite-Actinolite.

- * Whole = Whole sample submitted and gravimetric reduction performed by AMA Analytical Services Residue = Gravimetric reduction of sample performed by client and residue only submitted
** NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"
*** PLM = Polarized Light Microscopy after gravimetric reduction (NY ELAP Method 198.1) TEM = Transmission Electron Microscopy after gravimetric reduction (NY ELAP Method 198.4)

Trem= Tremolite
Actin= Actinolite


Luis Bustillos

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of air samples.



CERTIFICATE OF ANALYSIS

Client: Ecology & Environment, Inc.
Address: 6405 Metcalf Avenue, Cloverleaf Building 3 - Suite 404
Overland Park, Kansas 66202

Job Name: Vermiculite Investigations
Job Location: Kansas City & Omaha
Job Number: 1529VISIXX
P.O. Number: HQKC01771

Chain Of Custody: 77780
Date Analyzed: 12/07/2000
Person Submitting: Michael Keller

Attention: Chuck Smith

Page 2 of 2

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Color	Analyst ID	Comments
-------------------	-----------------	----------------	--------------------	-----------------	---------------------	------------------------	----------------------	--------------------	-----------------	-------------------	---------------	---------------------	--------------	------------	----------

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- TEM RECOMMENDATION** - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- MATRIX REDUCTION RECOMMENDATION** - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Yung-Sil Hong Yim

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of air samples.

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FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Kansas City)

Sample #: KC-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/28/00

Sample Time: 1328

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

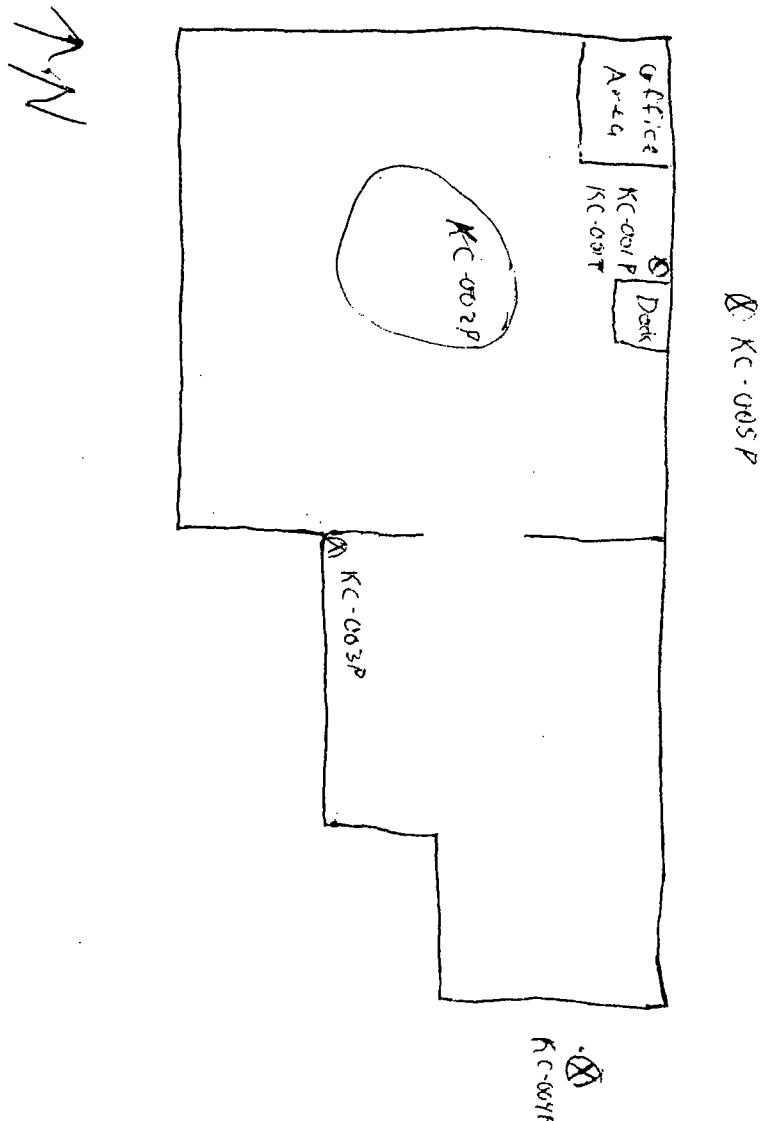
Sample Location

Identifier/Description: Interior
wall/floor near loading
dock

Property Owner Information:

Comments:

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Kansas City)

Sample #: KC-0017

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/28/00

Sample Time: 1328

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by TEM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: cat ink
co-located with KC-001P

SAMPLE LOCATION MAP

See sketch on field sheet
KC-001P

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Kansas City)

Sample #: KC-002P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/28/00

Sample Time: 1332

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Sweep
Sample of floor beneath
where blast furnace was
located

SAMPLE LOCATION MAP

See sketch on Field Sheet
KC-001P

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Kansas City)

Sample #: KC-003P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/28/00

Sample Time: 1336

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Interior
wall/Floor East end of
Building

SAMPLE LOCATION MAP

See sketch on Field sheet
KC-001P

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Kansas City)

Sample #: KC-004P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/28/00

Sample Time: 1342

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: outside
soil East end of
Building

SAMPLE LOCATION MAP

See sketch on Field Sheet
KC-001P

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Kansas City)

Sample #: KC-005P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/28/00

Sample Time: 1357

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: outside
soil north end of
building

SAMPLE LOCATION MAP

see sketch on field sheet
KC-001P

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0-001T

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by TEM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location Identifier/Description:
Railroad Spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Rail Road Spur
CO-located with
0-001P

Property Owner Information:

Comments:

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0-003P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Next to building

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: O-004P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Excavated Pile

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0 - 005P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/17/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Backfield and
Railroad spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments:



AMA Analytical Services, Inc.

AIHA (#8863) NVLAP (#1143) NY ELAP (10920)
4475 Forbes Blvd., Lanham, MD 20706
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
Number For Inquiries)

77781

MAILING ADDRESS:

1. Submittal Date: 12-04-00 Job Name/Location: Vermiculite Inv. / Council Bluffs, St. Louis, Wellsville
2. Client Name: Ecology and Environment, Inc. Job #: 1529VISIXX P.O. #: KC 01771
3. Street/RFD/P.O. Box: 6405 Metcalf Ave. Bldg 3, Suite 404 Bill To: Ecology and Environment, Inc.
4. City, State, Zip: Overland Park, KS, 66202 Phone #: (913) 432-9961 Fax: (913) 432-0670
5. Contact Person: Chuck Smith Submitted By: Michael Keller (Print) Michael Keller (Signature)
6. DATE & TIME RESULTS REQUIRED: _____ Time: _____ ☐ IMMEDIATE ☐ 24HR ☐ 48HR ☐ 72HR ☐ 5-DAY OTHER (Specify): _____

SAMPLE DATA:

1. Analysis Type: ☒ Asbestos ☐ Lead ☐ NOB - Whole (PLM/TEM) ☐ NOB Res. Ash (TEM) ☐ Other (Specify) _____
2. Total Number Of Samples: TEM 4 PCM _____ PLM 86 LEAD _____ OTHER (Specify) _____
3. ELECTRON MICROSCOPY SAMPLES:
A. Filter Type: ☐ PC ☐ MCE ☐ B. Porosity: _____ Micron _____ C. Diameter: ☐ 37mm ☐ 25mm
4. Release Criteria/Analytical Sensitivity: 0.010 f/cc ☐ 0.005 f/cc ☐ AHERA ☒ %ASBESTOS ☐ S/PT² ☐ OTHER ☐
5. Field Sheet Attached? YES ☐ NO ☒ If No Then Please Complete The Following:

SAMPLE ANALYSIS INFORMATION

ANALYSIS

MATRIX

CLIENT ID NUMBER	AMA ID NUMBER	SAMPLE LOCATION	DATE	VOLUME (LITERS)	TEM	PCM	PLM	LEAD	OTHER	AIR	BLANK	BULK	WIPE	OTHER
C-B-001T			10-12-00		X							X		
C-B-001P			10-12-00				X					X		
B-001T			11-30-00		X							X		
B-001P			11-30-00				X					X		
B-002P			11-30-00				X					X		
B-003P			11-30-00				X					X		
E-001T			11-30-00		X							X		
E-001P			11-30-00				X					X		
W-001T			12-01-00		X							X		
W-001P			12-01-00				X					X		
W-002P			12-01-00				X					X		
W-003P			12-01-00				X					X		
B-004P			11-30-00				X					X		

REPORTING DATA:

1. Verbal Results To Whom? Name: Chuck Smith Phone: (913) 432-9961 Beeper: _____
2. Date Written Results Required: _____ / _____ / _____

LABORATORY STAFF ONLY: (CUSTODY)

1. Date/Time RCVD: _____ / _____ / _____ @ _____ Via _____ By (Print) _____ Sign _____
2. Date/Time Analyzed: _____ / _____ / _____ @ _____ By (Print) _____ Sign _____
3. Results Reported To: _____ Date: _____ / _____ / _____ Time: _____ Initials: _____
4. Comments: _____

AMA Analytical Services, Inc.



Electron & Optical Microscopy Services

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: Ecology & Environment, Inc.
Address: 6405 Metcalf Avenue, Cloveleaf Building 3 - Suite 404
Overland Park, Kansas 66202

Job Name: Vermiculite Investigations
Job Location: Council Bluffs, St. Louis, & Wellsville
Job Number: 1529VISIXX
P.O. Number: HQKC01771

Chain Of Custody: 77781
Date Analyzed: 12/12/2000
Person Submitting: Michael Keller

Attention: Chuck Smith

Page 1 of 2

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Color	Analyst ID	Comments
0112621	CB-001P	NAD	--	--	--	--	--	--	2	--	--	98	Brown	AY	
0112622	B-001P	NAD	--	--	--	--	--	--	TR	--	TR	100	Beige	AY	
0112623	B-002P	NAD	--	--	--	--	--	--	TR	--	TR	100	Beige	AY	
0112624	B-003P	NAD	--	--	--	--	TR	--	TR	--	--	100	Brown	AY	
0112625	B-004P	TR	--	--	--	TR	--	--	TR	--	--	100	Brown	AY	Tremolite - Actinolite
0112626	Z-001P	TR	--	--	--	TR	--	--	TR	--	--	100	Brown	AY	Tremolite - Actinolite
0112627	W-001P	TR	--	--	--	TR	--	--	TR	--	--	100	Brown	AY	Tremolite - Actinolite
0112628	W-002P	TR	--	--	--	TR	--	--	TR	--	--	100	Brown	AY	Tremolite - Actinolite
0112629	W-003P	NAD	--	--	--	--	--	--	TR	--	--	100	Brown	AY	

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP Accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of air samples.

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An AIHA (#8863), NVLAP (#1143), & New York ELAP (#10920) Accredited Laboratory.
4475 Forbes Blvd. • Lanham, MD 20706 • (301) 459-2640 • Toll Free (800) 346-0961 • Fax (301) 459-2643

AMA Analytical Services, Inc.



Electron & Optical Microscopy Services

CERTIFICATE OF ANALYSIS

NVLAP
NY ELAP
AIHA

Client: Ecology & Environment, Inc. Job Name: Vermiculite Investigations Chain of Custody: 77781
Address: 6405 Metcalf Avenue, Cloveleaf Building 3 Job Location: Council Bluffs, St. Louis, & Wellsville Date Analyzed: 12/12/2000
Suite 404
Overland Park, Kansas 66202 Job Number: 1529VISIXX Person Submitting: Michael Keller
Attention: Chuck Smith P.O. Number: HQKC01771

Page 1 of 1

Summary of Asbestos Analysis of Non-Friable Organically Bound (NOB) Bulk Samples

AMA Sample Number	Client Sample #	Sample Type *	% Total Asbestos **	% Asbestos by PLM ***	% Asbestos by TEM ***	% by Type Chrysotile	% by Type Tremolite/Actinolite	% by Type Crocidolite	% Organics	% Acid Soluble	% Other	Comments
0112630	CB-001T	Whole	NAD	N/A	NAD				4.7%	30.4%	64.9%	
0112631	B-001T	Whole	NAD	N/A	NAD				4.1%	6.0%	90.0%	
0112632	Z-001T	Whole	TR	N/A	TR	TR	TR		31.0%	7.3%	61.5%	
0112633	W-001T	Whole	TR	N/A	TR	TR	TR		29.3%	12.9%	57.7%	

- * Whole = Whole sample submitted and gravimetric reduction performed by AMA Analytical Services Residue = Gravimetric reduction of sample performed by client and residue only submitted
** NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"
*** PLM = Polarized Light Microscopy after gravimetric reduction (NY ELAP Method 198.1) TEM = Transmission Electron Microscopy after gravimetric reduction (NY ELAP Method 198.4)

Andreas Saldivar

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Client: Ecology & Environment, Inc. Job Name: Vermiculite Investigations Chain Of Custody: 77781
Address: 6405 Metcalf Avenue, Cloveleaf Building 3 - Suite 404 Job Location: Council Bluffs, St. Louis, & Wellsville Date Analyzed: 12/12/2000
Overland Park, Kansas 66202 Job Number: 1529VIS1XX Person Submitting: Michael Keller
P.O. Number: HQKC01771
Attention: Chuck Smith

Page 2 of 2

Summary of Polarized Light Microscopy

AMA Sample Number	Client Sample #	Total Asbestos	Chrysotile Percent	Amosite Percent	Crocidolite Percent	Other Asbestos Percent	Mineral Wool Percent	Fiberglass Percent	Organic Percent	Synthetic Percent	Other Percent	Particulate Percent	Sample Color	Analyst ID	Comments
-------------------	-----------------	----------------	--------------------	-----------------	---------------------	------------------------	----------------------	--------------------	-----------------	-------------------	---------------	---------------------	--------------	------------	----------

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected"

TR = "Trace equals less than 1% of this component"

Young-Sil Hong Yim

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FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Council Bluffs)

Sample #: CB-001T

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10-12-00

Sample Time: 0920

Sampler(s): Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 pounce jar	NA	Asbestos by TEM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Dock by
South railroad spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Council Bluffs)

Sample #: CB-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10-12-00

Sample Time: 0920

Sampler(s): Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8.4 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Dock by
South railroad spur.

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (St. Louis, Brouk)

Sample #: B-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/30/00

Sample Time: 1108

Sampler(s): Kinrotz

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: under
hopper in building 1

SAMPLE LOCATION MAP

See sketch sample B-001T

Property Owner Information:

See Field sheet
B-001T

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (St. Louis, Brouk)

Sample #: B-002P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/30/00

Sample Time: 1107

Sampler(s): Kuroth

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Building 1
Floor Sample

SAMPLE LOCATION MAP

See Sketch Sample B-001T MK
B-001T

Property Owner Information:

See Field Sheet
B-001T

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (St. Louis, Brouk)

Sample #: B-ØØ3P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/30/00

Sample Time: 1145

Sampler(s): Kihroth

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Rail road
spur.

SAMPLE LOCATION MAP

See sketch B-ØØ1T

Property Owner Information:

See field sheet
B-ØØ1T

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (St. Louis, Brouk)

Sample #: B-004P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11/30/00

Sample Time: 1152

Sampler(s): Kinrotz

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Outside
Building 1 north of dock
Door 3

SAMPLE LOCATION MAP

See sketch B-001T

Property Owner Information:

See Field sheet
B-001T

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (St. Louis, Zonolite)

Sample #: Z-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11-30-00

Sample Time: 1230

Sampler(s): Kinross

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Railroad
Spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (St. Louis, Zonolite)

Sample #: Z-001T

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 11-30-00

Sample Time: 1230

Sampler(s): Kiroto

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by TEM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Railroad
Spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Wellsville)

Sample #: W-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 12/01/00

Sample Time: 1330

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTIONMedia: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

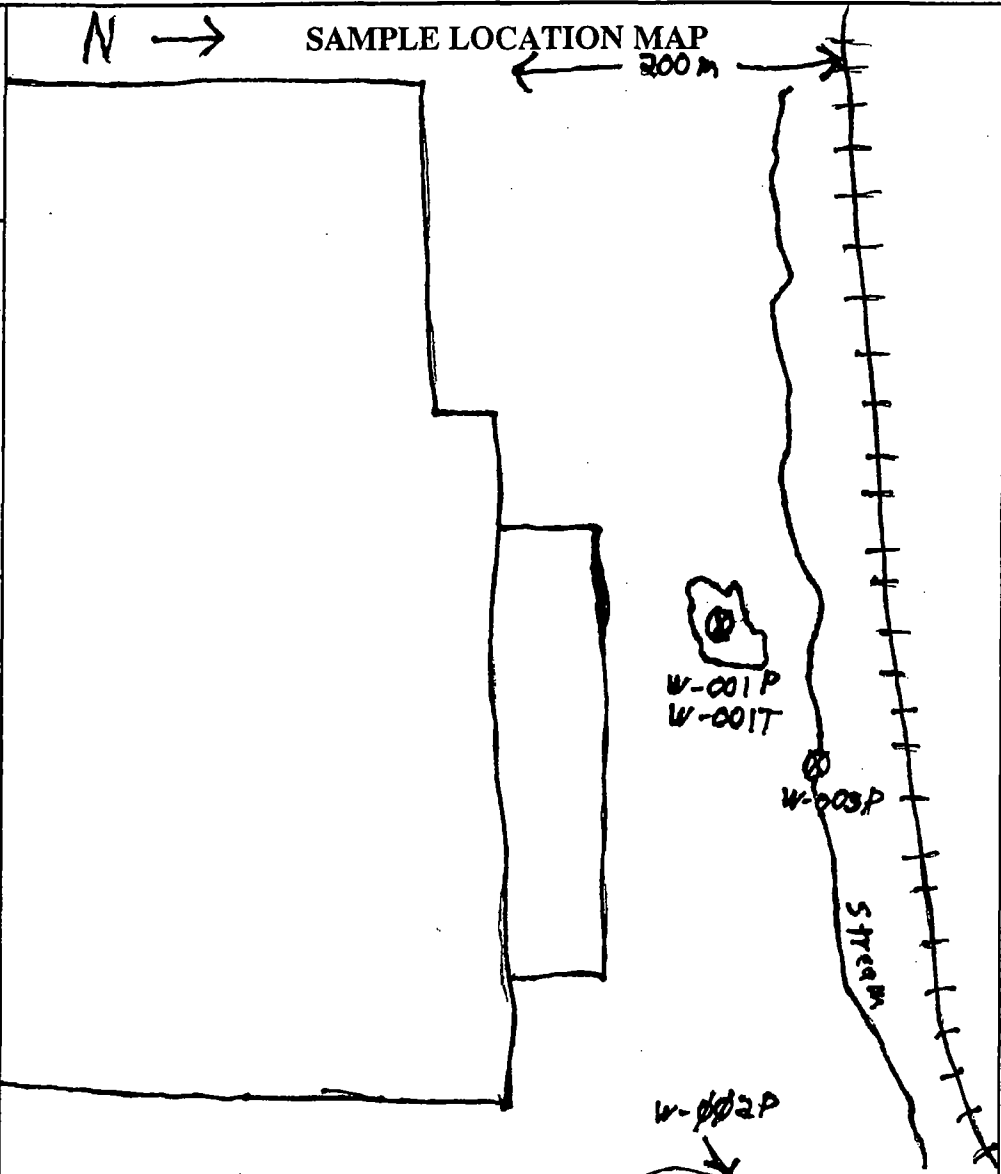
Sample Location

Identifier/Description: North of
Bakling

Property Owner Information:

Diversified Insulation, Inc.
 PO Box 582
 Wellsville, KS

Comments:



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Wellsville)

Sample #: W-ØØ1T

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 12/01/00

Sample Time: 1330

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ^{oz} pounce jar	NA	Asbestos by TEM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: North of
Building

SAMPLE LOCATION MAP

See sketch on field sheet
W-ØØ1P

Property Owner Information:

see field sheet
W-ØØ1P

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Wellsville)

Sample #: W-002P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 12/01/00

Sample Time: 1335

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ^{oz} jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Northeast
of Building

SAMPLE LOCATION MAP

See sketch on field sheet
W-001P

Property Owner Information:

See field sheet
W-001P

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Wellsville)

Sample #: W-003P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 12/01/00

Sample Time: 1338

Sampler(s): Keller

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ^{1/2} ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description: Stream
north of Building

SAMPLE LOCATION MAP

See sketch on field sheet
W-001P

Property Owner Information:

See field sheet
W-001P

Comments:

ATTACHMENT E

Removal Site Evaluation (RSE) Form

**SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT**

I. SITE NAME AND LOCATION:

NAME: Vermiculite Investigations

ADDRESS OR OTHER LOCATION IDENTIFIER: Various

CITY: Council Bluffs, Kansas City (Missouri), Omaha, St. Louis, Wellsville (Kansas)

STATE: IA, MO, NE, KS

ZIP:

DIRECTIONS TO SITE: The vermiculite investigations are composed of six site locations. See Site Location Maps in Attachment A.

MAP ATTACHED: X

II. PROGRAM CONTACTS:

REQUESTED BY: Roy Crossland

DATE OF REQUEST:

AGENCY/OFFICE: Environmental Protection Agency/SUPR/ER&R

MAILING ADDRESS: 901 N. 5th Street

CITY: Kansas City

STATE: KS

ZIP: 66101

TELEPHONE: (913) 551-7965

FAX: (913) 551-7948

EVALUATOR: Michael Keller

AGENCY/OFFICE: Ecology & Environment, Inc./Superfund Technical Assessment and Response Team (START)

MAILING ADDRESS: 6405 Metcalf, Bldg 3, Suite 404

CITY: Overland Park

STATE: KS

ZIP: 66202

TELEPHONE: (913) 432-9961

FAX: (913) 432-0670

III. REMOVAL SITE EVALUATION CRITERIA [40 CFR 300.410(e)]:

IS THERE A RELEASE AS DEFINED BY THE NCP:

YES ■ **or** **NO** □

EXPLAIN: Trace amounts of asbestos-containing material (ACM) were found in 13 of the samples.

(A RELEASE is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment of barrels, containers, and other closed receptacles containing any hazardous substances or pollutant or contaminant), but excludes: workplace exposures; engine exhaust emissions; nuclear releases otherwise regulated; and the normal application of fertilizer. For purposes of the NCP, release also means threat of release.)

IS THE SOURCE A FACILITY OR VESSEL AS DEFINED BY THE NCP:

YES ■ **or** **NO** □

EXPLAIN: All six of the locations have structures located on the property.

(A FACILITY is defined as any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or POTW), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft or any site or area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel. A VESSEL is defined as any description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel.)

DOES THE RELEASE INVOLVE A HAZARDOUS SUBSTANCE, OR POLLUTANT OR CONTAMINANT AS DEFINED BY THE NCP:

YES ■ **or** **NO** □

EXPLAIN: The release involves asbestos (tremolite, actinolite, chrysotile).

(A HAZARDOUS SUBSTANCE means any substance, element, compound, mixture, solution, hazardous waste, toxic pollutant, hazardous air pollutant, or imminently hazardous chemical substance or mixture designated pursuant to the CWA, CERCLA, SDWA, CAA or TSCA. The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas or mixtures of natural and synthetic gas. The definition of POLLUTANT or CONTAMINANT includes, but is not limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations, in such organisms or their offspring. The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas or mixtures of natural and synthetic gas).

SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT

III. REMOVAL SITE EVALUATION CRITERIA [40 CFR 300.410(e)] (continued):

IS THE RELEASE SUBJECT TO THE LIMITATIONS ON RESPONSE:

YES ☐ or NO ☒

EXPLAIN: No limitations on response apply.

(The LIMITATIONS ON RESPONSE provisions of the NCP (40 CFR 300.400(B) states that removals shall not be undertaken in response to a release: of a naturally occurring substance in its unaltered or natural form; from products that are a part of the structure of, and result in exposure within, residential buildings or business or community structures; or into public or private drinking water supplies due to deterioration of the system through ordinary use.)

DOES THE QUANTITY OR CONCENTRATION WARRANT RESPONSE:

YES ☐ or NO ☒

EXPLAIN: Only trace amounts of ACM were detected in the samples.

HAS A PRP BEEN IDENTIFIED:

YES ☒ or NO ☐

EXPLAIN: The sites are associated with the W.R. Grace Company vermiculite mines in Libby, Montana.

IV. CONDITIONS TO WARRANT REMOVAL [40 CFR 300.415(b)(2)]:

ACTUAL OR POTENTIAL EXPOSURE TO HAZARDOUS SUBSTANCES, OR POLLUTANTS, OR CONTAMINANTS:

YES ☐ or NO ☒

EXPLAIN: Only trace amounts of ACM were identified at the sites.

ACTUAL OR POTENTIAL CONTAMINATION OF DRINKING WATER SUPPLIES:

YES ☐ or NO ☒

EXPLAIN: No contamination is suspected in the drinking water due to the nature of the contaminant and the quantity.

HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS IN DRUMS, BARRELS, OR BULK STORAGE CONTAINERS:

YES ☐ or NO ☒

EXPLAIN: No contamination exists in drums, barrels, or bulk storage containers.

HIGH LEVELS OF HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS IN NEAR-SURFACE SOILS:

YES ☐ or NO ☒

EXPLAIN: Only trace amounts of ACM were identified in the samples of the six sites.

CONDITIONS SUSCEPTIBLE TO IMPACT FROM ADVERSE WEATHER CONDITIONS:

YES ☐ or NO ☒

EXPLAIN: Only trace amounts of ACM is present at the sites.

THREAT OF FIRE OR EXPLOSION:

YES ☐ or NO ☒

EXPLAIN: No threat of fire or explosion exist at the sites from ACM.

POTENTIAL FOR OTHER FEDERAL OR STATE RESPONSE MECHANISMS:

YES ☐ or NO ☒

EXPLAIN: No other response mechanisms exist for the sites.

**SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT**

IV. CONDITIONS TO WARRANT REMOVAL [40 CFR 300.415(b)(2)] (continued):

OTHER SITUATIONS OR FACTORS WHICH POSE A THREAT:

YES ☐ or NO ☒

EXPLAIN: No other situations of factors pose a threat to the sites due to ACM contamination.

V. POTENTIAL REMOVAL ACTIONS [40 CFR 300.415(d)]:

(NOTE: The following identifies potential removal actions which may be determined to be appropriate pending further review and study. The proposed actions should be considered preliminary proposals and are subject to change.)

SITE SECURITY:

YES ☐ or NO ☒

EXPLAIN:

STABILIZATION OR REMOVAL OF SURFACE IMPOUNDMENTS:

YES ☐ or NO ☒

EXPLAIN: Not Applicable

CAPPING OF CONTAMINATED SOIL:

YES ☐ or NO ☒

EXPLAIN: Insufficient quantity of ACM.

USE OF CHEMICALS TO CONTROL/RETARD SPREAD OF CONTAMINATION:

YES ☐ or NO ☒

EXPLAIN: Not Applicable

CONTAMINATED SOIL EXCAVATION:

YES ☐ or NO ☒

EXPLAIN: Insufficient quantity of ACM.

REMOVAL OF DRUMS, TANKS, OR BULK STORAGE CONTAINERS:

YES ☐ or NO ☒

EXPLAIN: Not Applicable

**CONTAINMENT, TREATMENT, OR DISPOSAL OF HAZARDOUS SUBSTANCES, POLLUTANTS,
OR CONTAMINANTS:**

YES ☐ or NO ☒

EXPLAIN: Insufficient quantity of ACM.

PROVIDE ALTERNATIVE WATER SUPPLIES:

YES ☐ or NO ☒

EXPLAIN: Not Applicable

SUPERFUND REMOVAL SITE EVALUATION **and** **REMOVAL PRELIMINARY ASSESSMENT**

VI. REMOVAL SITE EVALUATION DETERMINATION AND REMOVAL PRELIMINARY ASSESSMENT FINDINGS AND RECOMMENDATIONS:

☒ **REMOVAL NOT WARRANTED—REMOVAL SITE EVALUATION TERMINATED**

(Cite one or more of the criteria from SECTION III. **REMOVAL SITE EVALUATION CRITERIA**, as the basis for the above determination.)

<input type="checkbox"/>	<input type="checkbox"/>	NOT A RELEASE	<input type="checkbox"/>	NOT A FACILITY OR VESSEL
<input type="checkbox"/>	<input type="checkbox"/>	NOT A HAZARDOUS SUBSTANCE OR POLLUTANT OR CONTAMINANT	<input type="checkbox"/>	SUBJECT TO RESPONSE LIMITATIONS
<input checked="" type="checkbox"/>	<input type="checkbox"/>	INSUFFICIENT QUANTITY OR CONCENTRATION	<input type="checkbox"/>	WILLING/CAPABLE PRP IDENTIFIED

COMMENT:

START conducted a Removal Assessment of six locations in Iowa, Kansas, Nebraska, and Missouri suspected of containing asbestos contaminated vermiculite which originated from a Montana mine. Eighteen samples were collected and submitted to Analytical Services, Inc. for asbestos analysis. Sample results indicate that only trace amounts of ACM are present at five of the sites and non-detect at the Council Bluffs site. No visible ACM was observed at any of the sites.

REMOVAL RECOMMENDED [☐ **EMERGENCY** ☐ **TIME-CRITICAL** ☐ **NON-TIME-CRITICAL**]

(Cite one or more of the conditions or factors from Section IV. **CONDITIONS TO WARRANT A REMOVAL ACTION**, as a basis for recommending that a removal action be conducted.)

<input type="checkbox"/>	<input type="checkbox"/>	EXPOSURE TO HAZARDOUS SUBSTANCES OR POLLUTANTS OR CONTAMINANTS	<input type="checkbox"/>	ADVERSE WEATHER IMPACTS
<input type="checkbox"/>	<input type="checkbox"/>	CONTAMINATED DRINKING WATER	<input type="checkbox"/>	FIRE/EXPLOSION THREAT
<input type="checkbox"/>	<input type="checkbox"/>	DRUMS, BARRELS OR CONTAINERS	<input type="checkbox"/>	NO OTHER RESPONSE MECHANISM
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	OTHER FACTORS

(Identify one or more of the removal actions listed in Section V. **REMOVAL ACTIONS WHICH MAY BE APPROPRIATE**, as examples of the types of response actions which are recommended.)

<input type="checkbox"/>	<input type="checkbox"/>	SITE SECURITY	<input type="checkbox"/>	DRAINAGE CONTROL	<input type="checkbox"/>	IMPOUNDMENT STABILIZATION
<input type="checkbox"/>	<input type="checkbox"/>	REMOVAL OF DRUMS, BARRELS, ETC.	<input type="checkbox"/>	SOIL CAPPING	<input type="checkbox"/>	SOIL EXCAVATION
<input type="checkbox"/>	<input type="checkbox"/>	CONTAIN/TREAT/DISPOSE OF WASTES	<input type="checkbox"/>	CHEMICAL CONTROLS	<input type="checkbox"/>	ALT. DRINKING WATER SUPPLIES

COMMENT:

ADDITIONAL REMOVAL SITE EVALUATION RECOMMENDED

(Cite one or more of the conditions or factors from Section IV. **CONDITIONS TO WARRANT A REMOVAL ACTION**, as a basis for recommending that additional site evaluation be performed.)

<input type="checkbox"/>	<input type="checkbox"/>	EXPOSURE TO HAZARDOUS SUBSTANCES OR POLLUTANTS OR CONTAMINANTS	<input type="checkbox"/>	ADVERSE WEATHER IMPACTS
<input type="checkbox"/>	<input type="checkbox"/>	CONTAMINATED DRINKING WATER	<input type="checkbox"/>	FIRE/EXPLOSION THREAT
<input type="checkbox"/>	<input type="checkbox"/>	DRUMS, BARRELS OR CONTAINERS	<input type="checkbox"/>	NO OTHER RESPONSE MECHANISM
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	OTHER FACTORS

(Identify one or more of the removal actions listed in Section V. **REMOVAL ACTIONS WHICH MAY BE APPROPRIATE**, as examples of the types of response actions which may be appropriate pending the results of further site evaluation.)

<input type="checkbox"/>	<input type="checkbox"/>	SITE SECURITY	<input type="checkbox"/>	DRAINAGE CONTROL	<input type="checkbox"/>	IMPOUNDMENT STABILIZATION
<input type="checkbox"/>	<input type="checkbox"/>	REMOVAL OF DRUMS, BARRELS, ETC.	<input type="checkbox"/>	SOIL CAPPING	<input type="checkbox"/>	SOIL EXCAVATION
<input type="checkbox"/>	<input type="checkbox"/>	CONTAIN/TREAT/DISPOSE OF WASTE	<input type="checkbox"/>	CHEMICAL CONTROLS	<input type="checkbox"/>	ALTERNATIVE DRINKING WATER SUPPLIES

COMMENT:

**SUPERFUND REMOVAL SITE EVALUATION
and
REMOVAL PRELIMINARY ASSESSMENT**

VII. ADDITIONAL INFORMATION OR COMMENTS:

EPA USE ONLY

VIII. CERTIFICATION

SIGNATURE: _____

DATE

POSITION/TITLE:

OFFICE/AGENCY:

IX. HAZARDOUS SUBSTANCES, POLLUTANTS OR CONTAMINANT INFORMATION:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0-001T

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by TEM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Railroad Spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0-001P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Rail Road Spar
CO-located with
0-001P

Property Owner Information:

Comments:

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0-003P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Next to building

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: O-004P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/12/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Excavated Pile

SAMPLE LOCATION MAP

Property Owner Information:

Comments:

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7
Superfund Division, 901 N. 5th Street, K.C., KS 66101

Site: Vermiculite Investigations (Omaha)

Sample #: 0 - 005P

EPA Project Leader: Joe Davis

E&E/START Project Manager: Michael Keller

Sample Date: 10/17/00

Sample Time:

Sampler(s): Joe Davis

REQUESTED ANALYSES

Container	Preservative	Analysis
8 ounce jar	NA	Asbestos by PLM

SAMPLE DESCRIPTION

Media: ☒ soil/sediment ☐ water ☐ air ☐ non-aqueous liquid ☐ other

Sample Location

Identifier/Description:

Backfield and
Railroad Spur

SAMPLE LOCATION MAP

Property Owner Information:

Comments: